

## **REDUCTION AND OPTIMIZATION OF INFORMATION PROCESSING SYSTEMS**

### **Abstract**

Techniques for arranging operations performable on information in an information processing system are provided. In a system having a plurality of information producers and a plurality of information subscribers, paths are identified over which information traverses, and within which the information is subject to select and/or transform operations. The present invention optimizes the system by reorganizing the sequence of select and transform operations so that transforms follow select operations; and by combining multiple select and transform operations into single select and transform operations, respectively. Using these optimizations, the processing resources of the system can be reorganized, and/or information flow graphs describing the system can be designed, so that the select operations are “pushed” toward the producers, and transform operations are “pushed” toward the subscribers. Efficient content-based routing systems can then be used to implement the select operations.